Listing of the Claims:

1. (PREVIOUSLY PRESENTED) A nucleic acid delivery system comprising:

(1) a fusion protein, wherein said fusion protein is prepared by recombinant techniques and contains:

(a) an antibody targeting moiety, which will specifically bind to a site on a target cell, and

(b) a binding moiety which will bind to a nucleic acid segment, and

(2) the nucleic acid segment containing a nucleic acid sequence of interest,

wherein the fusion protein is encoded by a nucleic acid having no stop codon between the antibody targeting moiety encoding nucleic acid segment and the nucleic acid segment encoding the binding moiety which will bind to a nucleic acid segment.

2. (CANCELLED)

3. (PREVIOUSLY PRESENTED) A nucleic acid delivery system comprising:

(1) a fusion protein, wherein said fusion protein is prepared by recombinant techniques and contains:

(a) an antibody targeting moiety, which will specifically bind to a site on a target cell, wherein the antibody is an antibody to a viral envelope protein, a cellular receptor, or an extracellular domain of an activated receptor, and

(b) a binding moiety which will bind to a nucleic acid segment, and

(2) the nucleic acid segment containing a nucleic acid sequence of interest.

4. (PREVIOUSLY PRESENTED) A nucleic acid delivery system comprising:

(1) a fusion protein, wherein said fusion protein is prepared by recombinant techniques and contains:

(a) an antibody targeting moiety, which will specifically bind to a site on a target cell, wherein the antibody is a single chain antibody, a Fab portion of an antibody, or a $(Fab')_2$ segment and

(b) a binding moiety which will bind to a nucleic acid segment, and

(2) the nucleic acid segment containing a nucleic acid sequence of interest.

5. (ORIGINAL) The nucleic acid delivery system of claim 1, wherein the binding moiety is a protein or the nucleic acid binding domain of a protein, and the binding moiety is fused to the carboxy portion of the targeting moiety.

6. (CANCELLED)

7. (ORIGINAL) The nucleic acid delivery system of claim 5, wherein the binding moiety is the protein protamine.

8. (CURRENTLY AMENDED) The nucleic acid delivery system of claim 3 ~~and~~ or 4, wherein the nucleic acid sequence of interest encodes an antibody, a dominant negative mutant, an antisense RNA, ribozymes, or a cytotoxic agent.

9. (CURRENTLY AMENDED) The nucleic acid delivery system of claim 3 ~~and~~ or 4, wherein the nucleic acid segment comprises a promoter operably linked to a desired gene in the nucleic acid sequence of interest, wherein said promoter and gene are flanked by 5' and 3' long terminal repeat (LTR) regions or inverted terminal repeat (ITR) regions.

10. (ORIGINAL) A nucleic acid delivery system comprising a fusion protein wherein one portion of the fusion protein comprises an antibody, which will selectively bind to a desired site on a cell, and the other portion of the fusion protein comprises a protamine protein capable of binding to a nucleic acid segment; and the nucleic acid segment.

11. (ORIGINAL) The nucleic acid delivery system of claim 10, wherein the nucleic acid segment is a DNA sequence corresponding to a cytotoxin gene or a fragment thereof which will encode a cytotoxic protein.

12. (ORIGINAL) The nucleic acid delivery system of claim 11, wherein the nucleic acid segment encodes at least Domain III of *Pseudomonas exotoxin* A.

13. (CURRENTLY AMENDED) A method of transforming a target cell which comprises adding an effective amount of the nucleic acid delivery system of claim 3 ~~and~~ or 4 to a medium containing the target cell, and contacting the target cell with the nucleic acid delivery system, whereby the target cell is transfected with the nucleic acid.

14. (CURRENTLY AMENDED) A method of preparing a nucleic acid delivery system which comprises transforming a cell with a vector containing a DNA segment which encodes the fusion protein of claim 3 ~~and~~ or 4 operably linked to a promoter, incubating the cell, and collecting the expressed fusion protein.

15. (CURRENTLY AMENDED) A method of use of a nucleic acid delivery system which comprises administering an effective amount of the nucleic acid delivery system of claim 3 ~~and~~ or 4 to serum containing a target cell, and contacting the target cell with the nucleic acid delivery system, whereby the target cell is transfected with the nucleic acid.

16. (PREVIOUSLY PRESENTED) A method of use of a nucleic acid delivery system which comprises administering an effective amount of the nucleic acid delivery system of claim 10 to serum containing a target cell, and contacting the target cell with the nucleic acid delivery system, whereby the target cell is transfected with the nucleic acid.

17. (CURRENTLY AMENDED) The method of claim[[s]] 13 ~~3 and 4~~, wherein the nucleic

acid is RNA.

18. (NEW) A method of transforming a target cell *in vivo* with RNA which comprises administering the nucleic acid delivery system of claim 3 or 4 to a subject containing the target cell, wherein the nucleic acid is RNA.

19. (NEW) The method of claim 15, wherein the nucleic acid is RNA.

20. (NEW) The nucleic acid delivery system of claim 3, wherein the antibody is to a viral envelope protein.